

SOLUTIONS



RESEARCH PROGRAMS Spring/Summer 2006

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PROJECT HIGHLIGHTS

AGGREGATE BASE PREPARATION

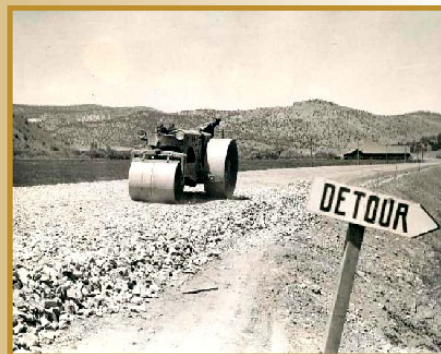
<http://www.mdt.mt.gov/research/projects/eps1.shtml>

Creating premium road base out of troublesome aggregates or soils is part of a successful formula in building superior performing pavements. As traffic loads and volumes rise, and as long-term pavement performance receives increased attention, what lies under the pavement is getting the same attention as what is on top.

Stabilized, premium bases tame troublesome soils when they are saturated or subject to pavement-destroying, long-term expansion. In addition, if water is the enemy of a pavement, premium bases can either waterproof a road structure to keep water out or drain water right out of the pavement structure and into the roadsides, where it belongs.

In this effort, the Montana Department of Transportation is initiating an experimental trial of various aggregate base preparations to determine effectiveness of these treatments for potential use in future road construction projects. This project, located near Miles City Montana, will incorporate six one-mile test sections, encompassing two controls and four test sections as follows:

- Gravel only (control);
- Magnesium Chloride and Tack coat (control);
- SS1 and Tack coat, pugged at 100mm;
- SS1 only, pugged at 100mm;
- Granular Base Stabilization (GBS) SemMaterials (topical); and
- PrimePlus MRC (topical).





During the placement of the sections Research and Construction staff will document and assess ease of consolidation, rollout, raveling and any other constructability concerns. Information from all participants will be collected to complete the initial report on constructability performance on each section. Once paved, these sites will be delineated for ongoing pavement performance analysis.



For more information, contact Craig Abernathy at 406-444-6269 or cabernathy@mt.gov.

RESEARCH PROJECT SOLICITATION, PRIORITIZATION, AND SELECTION PROCESS

http://www.mdt.mt.gov/research/projects/admin/research_eval.shtml

The Research Programs initiated a synthesis project to evaluate our research project solicitation, prioritization, and selection processes. The scope of this project involves surveying other states on their processes and conducting in-house interviews to obtain opinions from MDT staff.

If you have suggestions for improving these processes, please contact Sue Sillick at 406-444-7693 or ssillick@mt.gov.



INNOVATIONS

Some of the best innovations come from those people in the “trenches”. They see a problem and they fix it.

The age old surveying problem: How do you efficiently take surveying notes, while operating the total station and data collector, and taking field notes, often in inclement weather?

The solution: The Data Desk. The data desk was invented by Matt Lowe of the Bozeman construction crew. He designed the Data Desk and had White Sulphur Springs High School students build his invention with salvaged materials. Features of the Data desk include:

- Lightweight due to aluminum material construction, but still large enough to hold notebook, data collector, calculator, pencil, and eraser;
- Versatile post mounts to witness post or drive in sign post, with adjustable mounting height to reduce the amount of bending;
- Portable desk top can be set up anywhere total station and data collector are used;
- Allows for hands-free operation of total station and data collector while still taking field notes; and
- Clips prevent fly away papers. The device was tested in 50 mph winds.

The Data Desk keeps field notes off the ground, dry, clean, organized, and out of snow in winter. It increases surveying efficiency and cost-effectiveness, and decreases frustration.

Perhaps there are other applications that you might see for your area. The desk can be set up anywhere a lot of field data needs to be collected. The post hanger could be modified to fit 4X4 posts, chain link fence, guardrail, etc.

Are you doing something different that saves you time and money on the job? Research staff can help you share this information with others at MDT and beyond.

Contact Sue Sillick at 406-444-7693 or ssillick@mt.gov for the Data Desk specifications or to discuss your invention.





LIBRARY CORNER

Organizational Development Library Moves to Research

During the last few months, the Research Library has been undergoing many changes. Materials from the Organizational Development (ORG DEV) and Disadvantaged Business Enterprise (DBE) libraries that were moved out during renovation in the Human Resources area have now been placed in Research. This includes all formats – books, CDs, kits, and videos. Everyone who periodically reads titles on civil engineering reference, engineer in training, leadership, management, motivation, conflict mediation, education or human resources will be able to find the same titles in the Research Library. We have also been cataloging a back log of items; this cataloging is nearly complete.

Library Resources Training

Library Resources Training will again be offered in the ISD Training room, December 7, from 9:30 a.m. to 12:00 p.m. If you can't make it this time, more sessions will be offered in 2007. If you don't know how to access/search MDT's library catalog and the various databases offered to you via the catalog, sign up for a session.

InfoTrac Database Now Available

Several resources, negotiated through the Montana State Library, have greatly enhanced the research opportunities for all Montana Department of Transportation employees. Access to 20 Gale/InfoTrac databases is now possible, offering a wealth of journal articles on planning

and policy, humanities, sciences and technology, government, education, and business. Some of the databases are Business and Company ASAP, Gale Virtual Reference Library, InfoTrac OneFile, Expanded Academic ASAP, General Reference Center Gold, Health Reference Center Academic, Computer Database and LegalTrac. A link to the InfoTrac databases is on the library services page: <http://www.mdt.mt.gov/research/unique/services.shtml>.

NetLibrary

NetLibrary is another wonderful new addition to library services, offering more than 9,000 new electronic books to MDT employees. Setting up an account is not difficult. Once you have found the library catalog (see above link), you can search for items of interest. Type your search terms into the search box. If an item is an electronic resource, the URL link takes you to the NetLibrary page, and you need help, contact Lisa Autio at 406-444-6125 or lautio@mt.gov.

TRIS/NTL Integrated Search

TRIS Online and NTL (National Transportation Library) have now merged into one database, <http://ntl.bts.gov/>. This search capability will combine at least twenty state and national transportation library databases, making information more accessible to researchers.

Remember to contact Lisa Autio at 406-444-6125 or lautio@mt.gov for all your library needs.



DID YOU KNOW?

Annual TRB Visit at MDT

The Montana Department of Transportation welcomed Mr. Jayaprakash, a representative of the Transportation Research Board, for a visit on July 17th. TRB staff visits each state DOT each year. The objectives of these visits are to identify problems/issues and ways that TRB can help our organization in addressing these issues, identifying research results to disseminate to others, and discuss research implementation activities.

Mr. Jayaprakash's portfolio includes the areas of geotechnical engineering, geology, research, materials, construction, pavements, maintenance, structures, and the environment. During the visit Mr. Jayaprakash met with representatives from MDT Offices that matched his focus areas, and closed out the day with a meeting with the Director, Deputy Director, and the Chief Engineer.

For more information, please contact Sue Sillick at 406-444-7693 or ssillick@mt.gov.

NCHRP Problem Statements are Due 9/15/06

The AASHTO Standing Committee on Research (SCOR) is soliciting for research problem statements for the 2008 National Cooperative Highway Research Program (NCHRP). To be considered for the FY 2008 program, problem submittals must arrive by September 15, 2006. On receipt, FHWA and NCHRP evaluations will be performed. These evaluations will be sent to submitters on or before November 10, 2006. Until December 1, 2006, each submitter will have a chance to comment on the evaluations or withdraw (but not revise) the problem statement.

NCHRP staff will also be using evaluation panels for reviewing candidates in the subject areas of materials, bridges, and traffic and safety. For problems in these subject areas, the collective thoughts of the panel will be conveyed back to the submitter instead of the FHWA and NCHRP evaluations.

NCHRP staff no longer routinely does literature searches and strongly encourage submitters to do a search before submitting problems. By performing a literature search, you will have accomplished one of two objectives; either you will have found a solution to your pressing problem or you will have confirmed the need for new research. TRB's Transportation Research Information Services (TRIS) system is freely available as TRIS Online at <http://ntl.bts.gov/tris> and Research in Progress can be found at <http://rip.trb.org/search>.

For more information on submitting a problem statement, contact Sue Sillick at 406-444-7693 or ssillick@mt.gov. For help with conducting a literature search, contact Lisa Autio at 406-444-6125 or lautio@mt.gov.



CALENDAR OF EVENTS

September

NCHRP Problem Statements Due – 9/15

October

TRB Annual Meeting Preliminary Announcement
Distributed
New TCRP Projects Selected
MDT RRC Meeting – 10/31

November

MDT Research External/Internal Request for
Solicitations – Due 12/31

December

NCHRP Ballot on New Projects Distributed to
SCOR and RAC
NCHRP Problem Submitters' Responses to

Evaluations Due – 12/1
MDT RRC Meeting – 12/12

January

TCRP Panel Nominations Due
RAC/SCOR Meet During TRB Annual Meeting
– 1/21
TRB National Meeting in Washington, D.C.
– 1/21-25
MDT RRC Meeting – Solicitation Research Ideas
to be Ranked – 1/30
NCHRP Synthesis of Practice Topics Due – 1/31

February

NCHRP Ballots on New Problem Statements Due
Obligation of NCHRP funding due (month may
vary)
MDT RRC Meeting – 2/27

NEW RESEARCH REPORTS

The Association Between Landscape Features and Transportation Corridors on Movements and Habitat-Use Patterns of Wolverines

http://www.mdt.mt.gov/research/docs/research_proj/wolverines/final_report.pdf

Effects of Defensive Vehicle Handling Training on Novice Driver Safety: Phase 2. Advanced Driving Training

<http://www.mdt.mt.gov/research/projects/safety/defensive.shtml>

Evaluating Concrete Bridge Deck Performance

http://www.mdt.mt.gov/research/docs/research_proj/high_concrete/final_report.pdf

MDT Ride Specification Review

http://www.mdt.mt.gov/research/projects/const/ride_review.shtml

A listing of all past and current projects can be found at:
www.mdt.mt.gov/research/projects/sub_listing.shtml.



NEW RESEARCH PROJECTS

Automated Cost Recovery: A Feasibility Study

http://www.mdt.mt.gov/research/projects/planning/cost_recovery.shtml

Long-Term Maintenance of Load and Resistance Factor Design Specifications

<http://www.pooledfund.org/projectdetails.asp?id=286&status=4>

Tire/Pavement Noise Research Consortium

<http://www.pooledfund.org/projectdetails.asp?id=364&status=4>

A listing of all past and current projects can be found at:

www.mdt.mt.gov/research/projects/sub_listing.shtml.

REMINDER

Information on research services and products, such as research and experimental project processes and reports, and technology transfer services, including our library catalog can be found on the Research web site at www.mdt.mt.gov/research.

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